
UNIT 2: Physical Layer: Concept of Data Transmission, Transmission Media, Switching techniques, Wireless Transmission, ISDN and ATM.


References:
Data networks, Dimitri Bertsekas & Robert Gallager, PHI.
Data Networks: Concepts, Theory & Practices, Black, PHI.
Computer Networks & Distributed Processing, Martin J., PHI.
302 MCA: OBJECT ORIENTED PROGRAMMING USING C++


UNIT 2 Basic of C++: Variable & Constants, Data Types, Expression & Statements, cin & cout, Qualifier & Manipulators, Operators- their priority & associativity, Type Conversion, Casting, Loops & Decisions, Structures, Functions-inline Functions, Parameter Passing.

UNIT 3 OO Programming in C++: Details of-Objects and Classes, Constructor, Destructor, Function overloading, this pointer, Operator overloading, Inheritance, types of inheritance, Virtual Base Class.

UNIT 4 Miscellaneous Features: Friend Function, Friend Classes, Nested Classes, Static Members, Arrays in C++, arrays as data members, arrays of objects, Dynamic Memory Allocation Operators: new and delete

UNIT 5: Pointers in C++: pointer to objects, array of pointers to objects, pointers to derived classes, pointers to class members, Virtual Function, Pure Virtual Function, File & Stream Classes, Command Line Arguments, Templates

References:
1. "Object Oriented Programming in C++" By Leftor.
2. "Programming with C++" By John Hubbard
3. "The C++ Programming Language" By Stroustrup
4. "C++ Inside Outside" By Beckel
303 MCA: UNIX & Shell Scripting

UNIT 1: Overview UNIX & LINUX

Structure of UNIX, evolution of UNIX, kernel and shell, features of UNIX, UNIX: Installation and booting.

UNIT 2: File System

Unix file system, types of Unix files, Login Directory, Inode-User Identification, file system hierarchy, working directories & pathnames, pwd, Basic command for file manipulation like ls, cat, cp, rm, mv, ln, touch, cd, mkdir, rmdir, file access permission, types of permissions, determining & changing permission, chown, chgrp, newgrp, changing your password, passwd.

UNIT 3: Advanced features

Multuser communication & Scheduling: who, write, msg, wall, mail, at, lp, lstat, pr, news, motd. Multiple commands on command line, redirecting: standard output to a file, standard input from a file and both, pipelines and filter herad, tail, paste, sort, uniq, grep, egrep, fgrep, awk, nl. The Process, running a process in the background, process status, terminating a process, delay process, General purpose utilities: more, file, wc, od, cal, banner, cmp, tty, date etc.


UNIT 4: Introduction To Shell Scripting

Unix editors vi, ex, BournShell, C Shell, advanced features of shell. Shell variable – system shell variables, local & global variables, Shell meta characters and environment, if and case statements, for, while and until loops. Shell Programming.

UNIT 5: Introduction to Linux

System Administration: History and features of Linux, Linux structure, Various flavors of Linux, Installing Linux.

Reference:

1. UNIX System – Rebecca Thomas (McGraw-Hill)
2. Advanced UNIX – Stephen Prata (BPB Publication)
3. UNIX System – Sumitabha Das
4. Operating System by PHI- Milan koeck
304MCA: COMPUTER BASED NUMERICAL AND STATISTICAL TECHNIQUES

UNIT 1: Errors in numerical approximation. Sources of errors, machine error, Relative error, Percentage error, round off in different number system. Interpolation - Gauss Backward, Gauss Forward, Lagranges interpolation, Newton divided Difference , Inverse interpolation.

UNIT 2: Iterative methods: Zeros of a single transcendental equation and zeros of polynomial using bisections, false position Newton-Raphson etc convergence of solutions.


STATISTICAL ANALYSIS:


REFERENCES:

1. 'Basic Statistical Computing' by D. Cook A. H. Lee & T. S. Lee
2. 'Statistical Computer Method Basic' by J. D. Lee & T.D. Lee
3. 'Statistical Analysis a Computer Oriented Approach' by A. Affi
4. 'Probability & Statistics with reliability queuing & Computer Science Applications' by K. S. Trivedi
5. 'System Simulation' by Geoffrey Gordon
6. 'Computer Based numerical Algorithms' by E.V. Krishnamurthy & S.K. Sen
7. 'Computer Oriented numerical Methods' by V. Rajaraman
8. "Linear Algebra" by G. Hadley
305MCA : ORGANIZATIONAL BEHAVIOUR

UNIT 1: Introduction to Organizations and Individuals. What is an organization. Components of organization, nature and variety of organizations (in terms of objectives, Structure etc.) models of analyzing organizational phenomena.

UNIT 2: Organizational and Business variables, Organizations in the Indian context, institutions and structures. Basic roles in an organization, etc. perception attitudes. Motives (achievement, power and affiliation).

UNIT 3: Commitment. Value creativity and other personality factors. Profile of a manager and an entrepreneur.


UNIT 5: Principles Underlying design of organization, organizational change. Integrating cases (s).

Case method and lectures should be supplemented with a variety of other methodologies such as feedback on questionnaires and tests, role plays, and behaviour simulation exercise.

References: